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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,387	03/24/2006	Sachio Nagamitsu	2006_0409A	9344

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EXAMINER

FERNANDEZ RIVAS, OMAR F

ART UNIT	PAPER NUMBER
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2129

MAIL DATE	DELIVERY MODE
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03/27/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,387

Applicant(s)

NAGAMITSU ET AL.

Examiner

OMAR F. FERNANDEZ RIVAS

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>A1, A2</u> . | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. Claims 9-16 are pending on this application.

Information Disclosure Statement

2. The information disclosure statement filed March 24, 2006 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because a written English language translation of the non-English language documents cited has not been provided. Also no copy of the document "The Detection of an Object in a Dish Image Based on a Constraint from Text Information (no. 2C1-02, June, 2003)", from the papers in the 17th Annual Conference of the Japanese Society for Artificial Intelligence has not been provided.
3. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Specification

4. The disclosure is objected to because of the following informalities: paragraph 2 describes information contained in a document, and paragraph 3 identifies the

document. It seems as if the information contained in these paragraphs should be inverted (first identify the document and then describe the information contained therein).

Appropriate correction is required.

Claim Objections

5. Claim 9 is objected to because of the following informalities: line 17 recites “a certainty factor for each of objects that make up...” The claim should read “a certainty factor for each object that make up...” or “a certainty factor for objects that make up...” Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim recites: “the feature-quantity template creating means writing, in an **optional field of the fields** which make up the feature-quantity template, as the template certainty factor, the greatest certainty factor of the template certainty factors which are stored in **each field of at least any record** of the ingredient record of the ingredient table that stores the data which indicates the ingredient that corresponds to

the optional field, the cooked-food record of the cooked-food table that stores the data which indicates the cooking operation that corresponds to the optional field and the cooking-operation record of the cooking-operation table that stores the data which indicates the cooking operation that corresponds to the optional field”.

There is no antecedent basis for the fields which make up the feature-quantity template, since the claim or the claims from which the claim depends on do not provide for fields in the feature quantity template.

The claim also recites “the greatest certainty factor of the template certainty factors which are stored in **each field of at least any record** of...” It is not clear what the intent or scope of this limitation is in the claim, since the claim does not suggest that there are different records (or ingredients) and different fields for the records. For example, the claim recites: “an ingredient table which is formed by **an ingredient record** that has **a field** where data...” As written, the claim suggests that there is **one** record (one ingredient) with **one** field.

Also note that the claim recites writing as the template certainty factor the greatest certainty factor of the template certainty factors which are stored in **each field of at least any record** of the ingredient table, the cooked food table or the cooking operation table. It is not clear if there must be a comparison between the tables to determine the certainty factor to use as the template certainty factor, if only one of the tables is needed to determine the template certainty factor, If only one record from a table is needed to determine the greatest certainty factor to use. Moreover, if only one record containing one field, as suggested by the claim language, is needed to determine

the certainty factor, the intent of this limitation is not clear, since if there is no other record to compare that record with, that record will always contain the greatest (and only) certainty factor.

Claim Rejections - 35 USC § 101

7. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-14 and 16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The computer system must set forth a practical application of judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77. The invention is ineligible because it has not been limited to a substantial practical application.

For a claimed invention to be statutory the claimed invention must produce a useful, concrete, and tangible result. As the Supreme Court has made clear, “[a]n idea of itself is not patentable,” *Rubber-Tip Pencil Co. v. Howard*, 20 U.S. (1 Wall.) 498, 507 (1874); taking several abstract ideas and manipulating them together adds nothing to the basic equation. In re Warmerdam, 31 USPQ2d 1754 (Fed. Cir. 1994).

For a claimed invention to be statutory under 35 U.S.C. 101, the claims must provide a tangible result, and there must be a practical application, by either: 1) transforming (physical thing) or 2) by having the FINAL RESULT (not the steps) achieve or produce a useful (specific, substantial, AND credible), concrete (substantially repeatable/non-unpredictable), AND tangible (real world/non-abstract) result.

In the present case, claim 1 describes a system for recognizing ingredients in a cooking operation. However, the claim fails to provide a useful result because the claimed subject matter fails to sufficiently reflect at least one practical utility set forth in the descriptive portion of the specification. More specifically, while the described practical utility (utilities) is (are) directed to estimating a cooking recipe and **giving guidance to a person** on a proper cooking recipe (see paragraph 143 of the specification of the instant application), the claimed subject matter relates ONLY to recognizing ingredients and cooking operations by the recognitions system. As such, the claim is directed to mere abstract manipulation of abstract properties of objects for identification. Identification of objects performed by a system, in and of itself, is useless in a real world situation absent a particular substantial application for said identification. The claims are not limited to sufficiently reflect a substantial practical application for the result because they encompass arbitrary identification of objects based on their properties, producing an identification that has no specific purpose or use. Claims that recite a computer that solely calculates a mathematical formula are not statutory.

The claims also fail to provide a tangible result because the claimed subject matter fails to produce a result that is limited to having real world value rather than a result that may be interpreted to be abstract in nature as, for example, a thought, a computation, or manipulated data. More specifically, the claimed subject matter provides for recognizing objects by a system. This produced result remains in the abstract and, thus, fails to achieve the required status of having real world value since it is not outputted and provided to a user or to a device in a way as to affect its operation.

Claims 10-14 depend from claim 9 and incorporate the same deficiency, and furthermore fail to rectify the aforementioned deficiency.

Claim 16 recites limitations similar to that of claim 9 and is rejected on the same basis as set forth above regarding claim 9.

Claim 11 is rejected under 35 U.S.C. 101 because the claim fails to produce a concrete result because the claimed subject matter fails to be limited to the production of an assured, repeatable result. More specifically, the claimed subject matter is not repeatable because the claim recites writing as the template certainty factor the greatest certainty factor of the template certainty factors which are stored in each field **of at least any record** of the ingredient table, the cooked food table or the cooking operation table. The claim does not restrict how the system is to select the record to determine the greatest certainty factor. Lacking this restriction, the system may select a record arbitrarily (any record). Therefore, the system may produce a different result given the same inputs, and an assured and repeatable result is not produced each time the system is implemented.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 9-11 and 14-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Hamada et al. ("Associating Cooking Video with Related Textbook"; 2000; referred to as **Hamada**).

Claims 9 and 16

Hamada anticipates an ingredient cooking-operation recognition system (**Hamada**: pg. 238, section 2; pgs. 239-240, sections 4-4.2) comprising: a sensing means for acquiring observation data which includes **at least either of** an image around the hands of a person who performs a cooking operation and an environment sound that is produced by the cooking operation (**Hamada**: abstract; pg. 238, section 2; pgs 239-240, section 4.1; Examiner's Note (EN): note that only one of these is needed to read on the claimed limitation); a feature-quantity template in which various cooking operations that are predetermined for various ingredients are stored, together with a template certainty factor that is a certainty factor which is predetermined for each cooking operation of the ingredients (**Hamada**: pgs. 238-239, sections 2-3; EN: item 14 applies. Feature-quantity template and template certainty factor not further defined or restricted to any particular structure. The domain specific dictionaries are read as templates and the step number or order extracted from the documents are predetermined and read as certainty factors); a cooking-flow creating means for, based on the observation data which is acquired by the sensing means, calculating an observation certainty factor which indicates the certainty factor of **at least either of** an ingredient that is cooked by the person and the cooking operation of the ingredient, and

based on this observation certainty factor, creating a cooking flow for a dish which is prepared by the person (**Hamada**: pgs. 237-238, sections 1.2-2; pgs. 239-240, sections 4-4.2; Fig. 1; EN: item 14 applies. Observation certainty factor not further defined or restricted to any particular structure. Image analysis extracts ingredients or objects from the video stream and audio analysis detects keywords or objects from the audio stream. The shot that has the most common words with a specific step belongs to the step (cooking flow)); a primary certainty-factor calculating means for, based on the template certainty factor and the observation certainty factor, calculating a primary certainty factor which is a certainty factor for each of objects that make up the cooking flow which is created by the cooking-flow creating means (**Hamada**: pgs 238-240, sections 2-4.2; Fig. 1; EN: item 14 applies. Primary certainty factor not further defined or restricted to any particular structure. Linking the documents to a corresponding part of the video is read as a primary certainty factor. It is inherent that there must be a factor that the computer must consider when linking the document to a portion of the video); and a cooking-operation recognizing means recognizing the ingredient and the cooking operation that correspond to the observation data which is acquired by the sensing means, Based on the primary certainty factor which is calculated by the primary certainty-factor calculating means (**Hamada**: pgs. 239-240, sections 4-4.2; EN: analyzing the images from the video to extract objects and actions).

Claim 10

Hamada anticipates a cooking-flow database which stores cooking flows which are created in advance for various dishes (**Hamada**: pg. 237; abstract; pgs. 238-239, sections 2-3; pgs 240-241, sections 4.2-5; EN: the documents collected from the WWW cooking program site or the database where recipes can be retrieved); and a relevance-factor calculating means for, using mapping, calculating a relevance factor that indicates which of the cooking flows that are stored in the cooking-flow database is closest to the cooking flow which is created by the cooking-flow creating means (**Hamada**: pgs 238-240, sections 2-4.2; Fig. 1; EN: item 14 applies. No description has been provided in the claim as to how the relevance factor is calculated. Determining how common the words are between a shot and a step in the preparation within the document to link the steps in the document to a part of the video is determining a relevance factor), wherein the cooking-operation recognizing means calculates a final certainty factor, based on the relevance factor which is calculated by the relevance-factor calculating means and the primary certainty factor, updates the feature-quantity template by considering the final certainty factor as a new template certainty factor, and based on the feature-quantity template, recognizes an ingredient and a cooking operation (**Hamada**: pgs 237-240, sections 1.2-4.2; Fig. 1; EN: detecting the cooking actions and the objects in the images from the video).

Claim 11

Hamada anticipates a table storing means for storing **at least any one of**: an ingredient table which is formed by an ingredient record that has a field where data that indicates an ingredient is stored and a field where various kinds of data on the ingredient are stored together with a template certainty factor that is predetermined for the data; a cooked-food table which is formed by a cooked-food record that has a field where data that indicates a cooking operation is stored and a field where various kinds of data on a change in an ingredient by the cooking operation are stored together with a template certainty factor that is predetermined for the data; and a cooking-operation table which is formed by a cooking-operation record that has a field where data that indicates a cooking operation is stored and a field where various kinds of data on an environment sound that is produced by the cooking operation are stored together with a template certainty factor that is predetermined for the data (**Hamada**: pgs. 238-240, section 3; EN: item 14 applies. Note that only one of these is needed to be found in the prior art to read on the limitation claimed); a cooking-recipe database which stores data that indicates an ingredient which is used for various cooking recipes and data that indicates a cooking operation for the ingredient (**Hamada**: pg. 237; abstract; pgs. 238-239, sections 2-3; pgs 240-241, sections 4.2-5; EN: the documents collected from the WWW cooking program site or the database where recipes can be retrieved); an extracting means for extracting all kinds of ingredients and all kinds of cooking operations which are stored in the cooking-recipe database (**Hamada**: pgs. 238-239, sections 2-3; pgs 240-241, sections 4.2-5); and a feature-quantity template creating

means for creating, as a feature-quantity template, a table which includes, as items, each ingredient that is extracted by the extracting means and each cooking operation that is extracted by the extracting means, the feature-quantity template creating means writing, **in an optional field** of the fields which make up the feature-quantity template, as the template certainty factor, the greatest certainty factor of the template certainty factors which are stored in each field of **at least any record** of the ingredient record of the ingredient table that stores the data which indicates the ingredient that corresponds to the optional field, the cooked-food record of the cooked-food table that stores the data which indicates the cooking operation that corresponds to the optional field and the cooking-operation record of the cooking-operation table that stores the data which indicates the cooking operation that corresponds to the optional field (**Hamada**: pgs. 238-239, sections 2-3; EN: the field containing the template certainty factor is an "optional" field, therefore it is not required).

Claim 14

Hamada anticipates the cooking-flow creating means obtains a histogram of hue and a histogram of saturation from an image which is acquired by the sensing means, and estimates an ingredient by obtaining a correlation between these histograms and a color-feature template which is predetermined for each ingredient (**Hamada**: pgs. 239-240, sections 4-4.1; EN: item 14 applies. Performing image analysis using a database of colors and textures).

Claim 15

Hamada anticipates the relevance-factor calculating means estimates a cooking recipe based on a relevance factor (**Hamada**: pg 237, abstract; pgs. 238-240, sections 2-4.2); and a guidance means is further provided for giving, to the person, guidance on the cooking recipe which is estimated by the relevance-factor calculating means (**Hamada**: pg 237, abstract; pgs. 238-240, sections 2-4.2; EN: see especially figs. 3 and 5).

Examination Considerations

10. The claims and only the claims form the metes and bounds of the invention. "Office personnel are to give the claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 105455, 44USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim are not read into the claim. In re Prater, 415 F.2d, 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, I 45-48; p 2100-9, c 1, I 1-4). The Examiner has full latitude to interpret each claim in the broadest reasonable sense. Examiner will reference prior art using terminology familiar to one of ordinary skill in the art. Such an approach is broad in concept and can be either explicit or implicit in meaning.

11. Examiner's Notes are provided with the cited references to prior art to assist the applicant to better understand the nature of the prior art, application of such prior art and, as appropriate, to further indicate other prior art that maybe applied in other office

actions. Such comments are entirely consistent with the intent and spirit of compact prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior art but a link to prior art that one of ordinary skill in the art would find inherently appropriate.

12. Unless otherwise annotated, Examiner's statements are to be interpreted in reference to that of one of ordinary skill in the art. Statements made in reference to the condition of the disclosure constitute, on the face of it, the basis and such would be obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie statement.

13. Examiner has cited particular columns and line numbers (or paragraphs) in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific imitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the Applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner. The entire reference is considered to provide disclosure relating to the claimed invention

14. Examiner's Opinion: items 10-13 apply. The claims and only the claims form the metes and bounds of the invention. The Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Paris US PGPUB #2002/0171674

Neuhaus US Patent #5,832,446

Kudo et al. US PGPUB #2004/0099144

Hamada et al. "Structural Analysis of Cooking Preparation Steps in Japanese"
2000, pages 157-164.

Hamada et al. "Associating Video with Relating Document", 1999, pages 17-20.

16. Claims 9-16 are rejected.

Correspondence Information

17. Any inquires concerning this communication or earlier communications from the examiner should be directed to Omar F. Fernández Rivas, who may be reached Monday through Friday, between 8:00 a.m. and 5:00 p.m. EST. or via telephone at (571) 272-2589 or email omar.fernandezrivas@uspto.gov.

If you need to send an Official facsimile transmission, please send it to (571) 273-2589.

If attempts to reach the examiner are unsuccessful the Examiner's Supervisor, David Vincent, may be reached at (571) 272-3080.

Art Unit: 2129

Hand-delivered responses should be delivered to the Receptionist @ (Customer Service Window Randolph Building 401 Dulany Street Alexandria, VA 22313), located on the first floor of the south side of the Randolph Building.

Omar F. Fernández Rivas
Patent Examiner
Artificial Intelligence Art Unit 2129
United States Department of Commerce
Patent & Trademark Office

/Omar F. Fernández Rivas/
Examiner, Art Unit 2129

Monday, March 24, 2008.

/Joseph P. Hirl/
Primary Examiner, Art Unit 2129